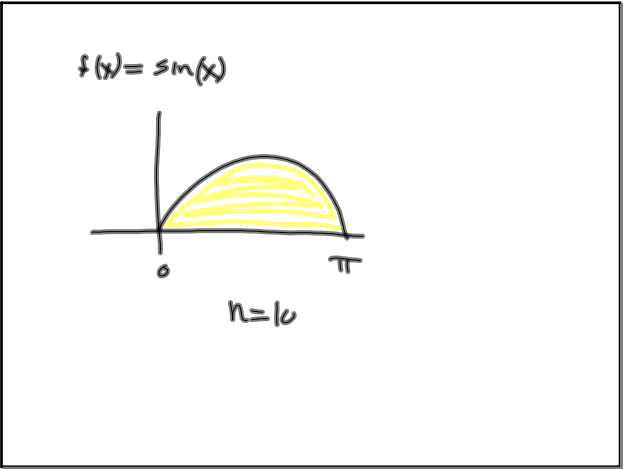
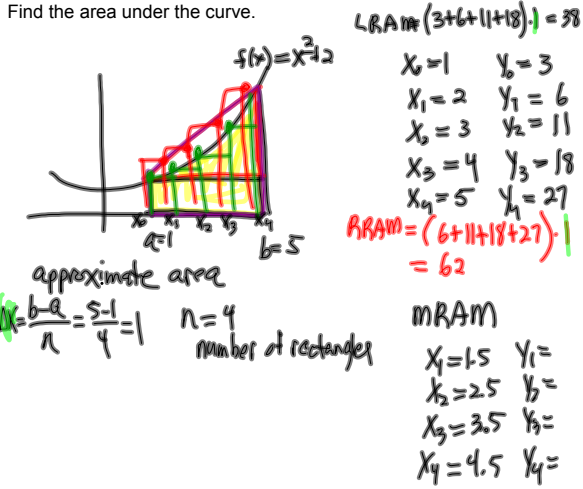
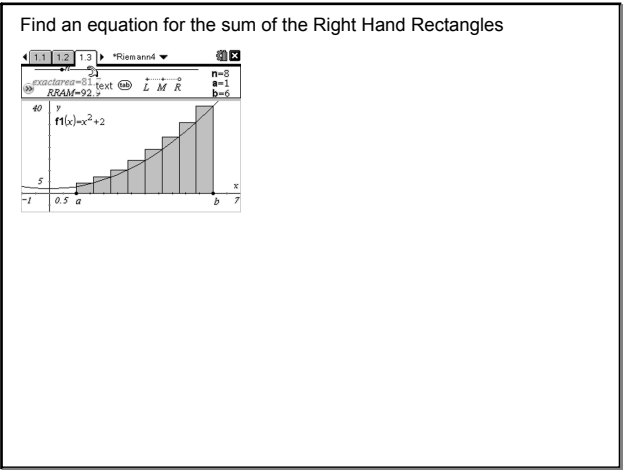
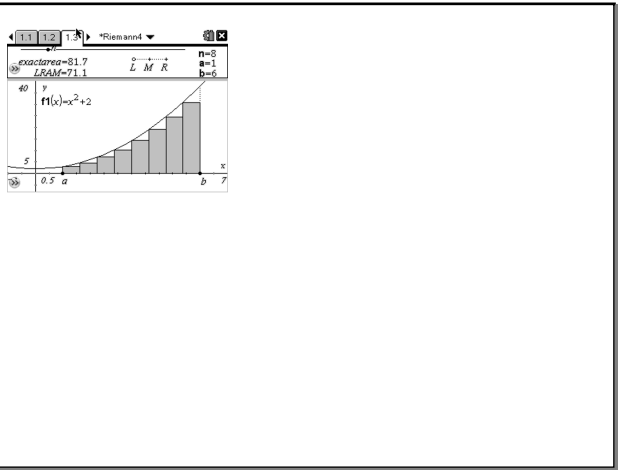


5.1a Estimating With Finite Sums
Find the area under the curve.



Nov 8-7:30 PM

Nov 7-10:10 AM



Nov 7-11:29 AM

Nov 8-7:50 PM

define an rram function

New

Name: rram

Type: Function

Library Access: LibPub (Show Catalog)

OK Cancel

1.1 1.2

rram

Define LibPub rram(a,b,n)=

Func

Return $\sum_{i=1}^n (f(a+i \cdot dx)) \cdot dx \cdot \frac{b-a}{n}$

EndFunc

Save in mylib. Refresh libraries

Nov 8-8:15 PM

lram and mram

1.1 1.2

lram

Define LibPub lram(a,b,n)=

Func

Return $\sum_{i=0}^{n-1} (f(a+i \cdot dx)) \cdot dx \cdot \frac{b-a}{n}$

EndFunc

1.1 1.2

mram

Define LibPub mram(a,b,n)=

Func

Return $\sum_{i=0}^{n-1} (f(a+\frac{dx}{2}+i \cdot dx)) \cdot dx \cdot \frac{b-a}{n}$

EndFunc

Nov 8-8:59 PM

Example 2

1.1 1.2

Define f(x)=x^2 sin(x) Done

ram lram(0.3,50.) 5.81235

ram lram(0.3,100.) 5.75701

ram mram(0.3,1000.) 5.77667

Nov 8-8:58 PM

Estimate the volume of a sphere with radius 4.

$x^2 + y^2 = 4^2$
 $y^2 = 4^2 - x^2$

$r^2 = y^2$

$\sum \pi r^2 \Delta x = \sum \pi (16 - x^2) \Delta x$

define $f(x) = \pi(16 - x^2)$

exact $\frac{4}{3} \pi \cdot 4^3 \approx 268.08$ mram(-4,4,100) 268.09

$\pi(16 - x^2)$

Oct 31-9:43 AM